Interview Summary	Application No.	Applicant(s)	
	10/595,974	AOYAGI ET AL.	
	Examiner	Art Unit	
	Brieann R. Fink	1796	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Brieann R. Fink*.

(2) *David Buttner*.

(3)*Nicholas Zachariades*.

(4)_____.

Date of Interview: *01 October 2009*.

Type: a)☒ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☒ No.
If Yes, brief description: _____.

Claim(s) discussed: *1 and 7*.

Identification of prior art discussed: *Zhang et al., Wang et al., and Ohsawa et al.*.

Agreement with respect to the claims f)☐ was reached. g)☐ was not reached. h)☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *List the Y groups under the proviso of claim 1 to be included in the larger Y group. Change formula 1 go show that each Y is directly attached to X, as shown in claim 2, rather than for example X-Y-Y. Ohsawa et al.'s chloromethyl styrene still meets the proposed claim 1. Applicant suggested eliminating the Y groups that Ohsawa suggests. It appears that the proposed amendment would overcome Zhang et al. and Wang et al*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

/Brieann R Fink/ Examiner, Art Unit 1796	/David J. Buttner/ Primary Examiner, Art Unit 1796

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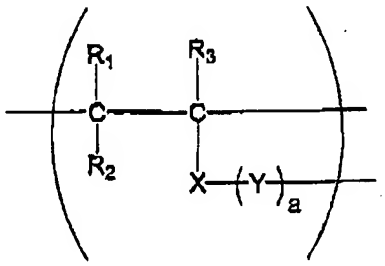
Proposed amendments

1. (Currently Amended) A multi-branched polymer having repeating units represented by a formula (I):



. . . (I)

(wherein R_1 to R_3 each independently represents hydrogen or a hydrocarbon group, R_1 may be bonded to R_3 to form a ring; X represents a connecting group having a valence of 3 or higher; Y may be the same or different and each represents a functional group with a structure where a halogen atom becomes an active halogen atom when the halogen atom is bound to a constituting carbon atom; and a is an integer of 2 or larger, Y is selected from the functional groups of

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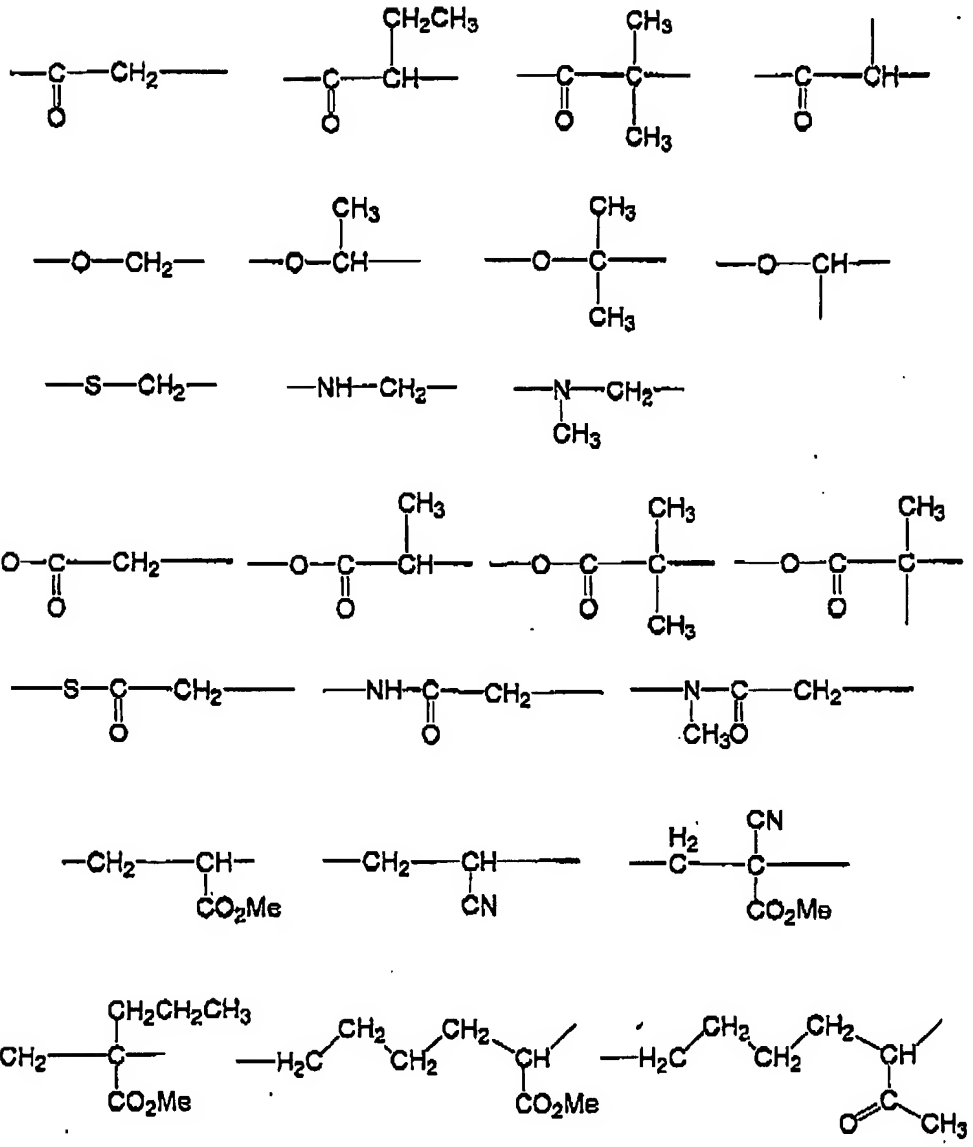
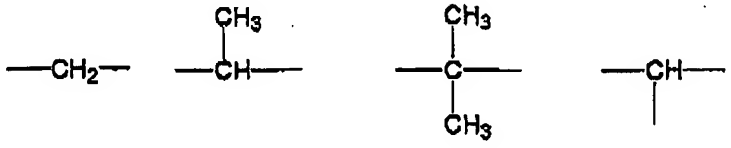


; and

when X is an aromatic hydrocarbon group or an aromatic heterocyclic group, Y is selected from the functional groups of



), wherein

the multi-branched polymer obtained by polymerizing a compound having 2 or more polymerization-initiation sites and polymerizable unsaturated bonds by a living radical

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polymerization, and

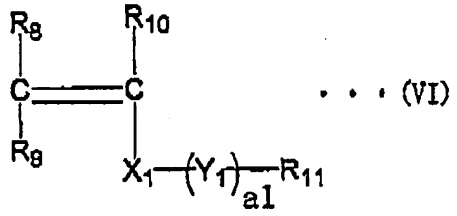
the reactions at the polymerization-initiation site and the polymerizable unsaturated bond are performed simultaneously.

2 to 4. (Original)

5. (Previously Presented)

6. (Original)

7. (Currently Amended) A production method of multi-branched polymer ~~obtained with a~~ comprising: living radical polymerization ~~method using a metal catalyst by polymerizing~~ of the compounds represented by a formula (VI) using a metal catalyst:



. . . (VI)

(wherein R_8 to R_{10} each independently represents hydrogen or a hydrocarbon group, and R_8 may be bonded to R_{10} to form a ring; X_1 represents a connecting group having a valence of 3 or higher; Y_1 may be the same or different and each represents a functional group with a structure where a halogen atom becomes an active halogen atom when the halogen atom is bound to a constituting carbon atom; a1 is an integer of 2 or larger, Y_1 is selected from the functional groups of

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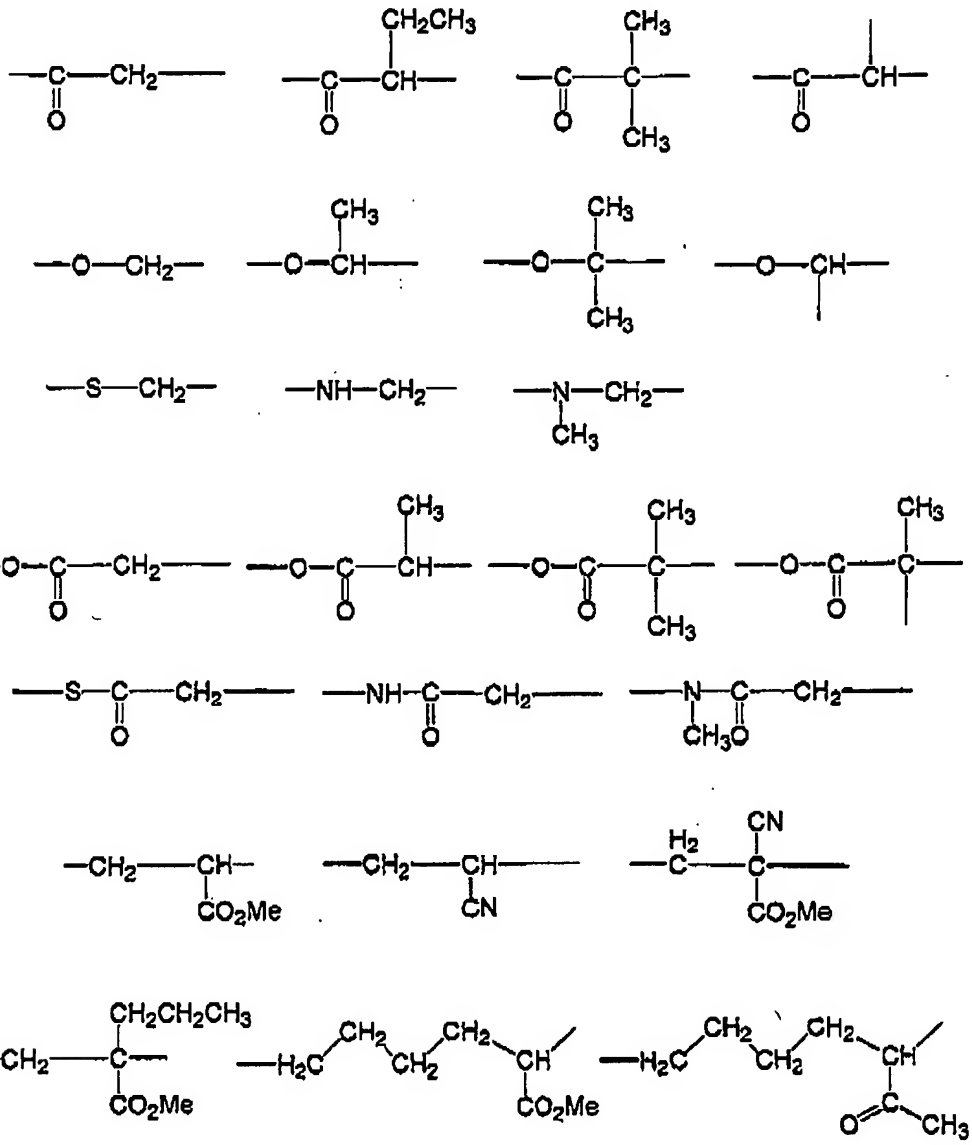
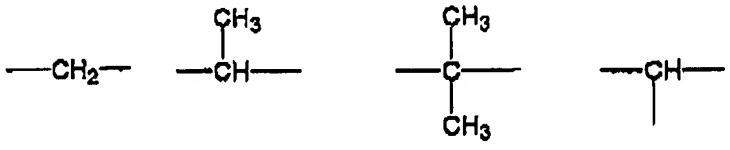


; and

when X_1 is an aromatic hydrocarbon group or an aromatic heterocyclic group, Y is selected from the functional groups of



; and R_{11} represents a chlorine atom, a bromine atom, or an iodine atom), wherein the reactions at the polymerization-initiation site and the polymerizable unsaturated bond in formula (VI) are performed simultaneously.

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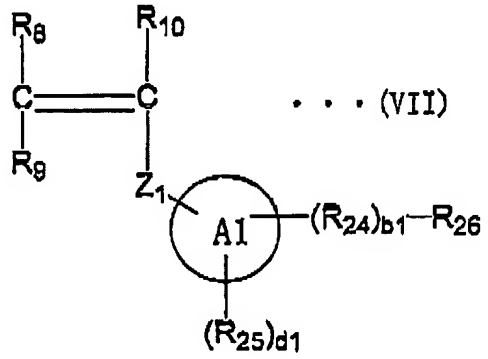
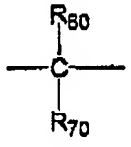
8. (Currently Amended) The production method of multi-branched polymer according to claim 7, wherein the compounds represented by the formula (VI) are compounds represented by a formula (VII):



. . . (VII)

wherein R_8 to R_{10} are as defined above; Z_1 represents a single bond or a connecting group having a valence of 2 or higher; A1 represents an aromatic hydrocarbon group or an aromatic heterocyclic group; R_{24} may be the same or different and each represents a functional group which may have an active halogen atom; b1 is an integer of 2 or larger; R_{25} represents a halogen atom or an organic group and d1 is 0 or an integer of 1 or larger and R_{25} may be the same or different when d1 is 2 or larger; R_{26} represents a chlorine atom, a bromine atom, or an iodine atom.

9. (Currently Amended) The production method of multi-branched polymer according to claim 8, wherein in the formula (VII), Z_1 is a single bond, A1 is an aromatic hydrocarbon group, and R_{24} is a functional group represented by a formula (VIII):

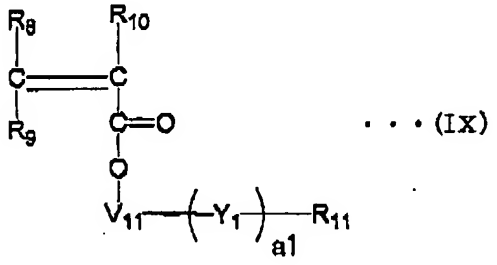


. . . (VIII)

wherein R_{60} and R_{70} each independently represents hydrogen, a halogen atom, or a C1 to C6 alkyl group which may have a substituent with a proviso that R_{60} and R_{70} are not halogen

atoms other than fluorine atoms at the same time.

10. (Currently Amended) The production method of multi-branched polymer according to claim 7, wherein the compounds represented by the formula (VI) are compounds represented by a formula (IX):

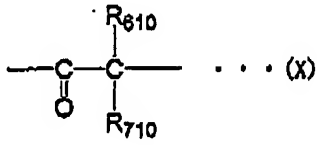


. . . (IX)

wherein R_8 to R_{10} are as defined above respectively; V_{11} represents a connecting group having a valence of 3 or higher; Y_1 may be the same or different and each represents a functional group which may have an active halogen atom; a1 is an integer of 2 or larger; and R_{11} represents a chlorine atom, a bromine atom, or an iodine atom.

11. (Currently Amended) The production method of multi-branched polymer according to claim 10, wherein V_{11} is an alkylenepolyoxy group in the formula (IX).

12. (Currently Amended) The production method of multi-branched polymer according to claim 10 or 11, wherein in the formula (IX), Y_1 is a functional group represented by a formula (X):



. . . (X)

wherein R_{610} and R_{710} each independently represents hydrogen, a halogen atom, an alkyl group which may have a substituent, or a linkage with other repeating units with a proviso

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that R_{610} and R_{710} do not become linkages with other repeating units at the same time.

13. (Currently Amended) The multi-branched polymer according to any one of claim 1 ~~or 7~~, wherein a ratio (Mw/Mn) of weight average molecular weight (Mw) to number average molecular weight (Mn) of the polymer is in a range between 1.01 and 9.99.

14. (Currently Amended) The multi-branched polymer according to any one of claim 1 ~~or 7~~, wherein the number average molecular weight (Mn) of the polymer is in a range between 200 and 20,000,000.

15. (Currently Amended) The multi-branched polymer according to any one of claim 1 ~~or 7~~, wherein the multi-branched polymer is a hyperbranched polymer.

16 to 19. (Canceled)

20. (Currently Amended) A star polymer having the multi-branched polymer according to claim 1 ~~or 7~~.

PROPOSED REACTION SCHEME DO NOT ENTER BRF